

AMENDMENT AND RESPONSE UNDER 37 C.F.R. § 1.111

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Title: NUCLEIC ACID ANALYSIS USING COMPLETE N-MER ARRAYS

Page 2

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- (a) providing at least two identical polynucleotide probe arrays, wherein each probe comprises a double stranded region and a single-stranded n-mer overhang region such that the overhangs in each array constitute a complete set of n-mers;
- (b) hybridizing first target polynucleotide to said overhangs of probe polynucleotides in one array to generate a first hybridization pattern;
- (c) hybridizing second target polynucleotide to said overhangs of probe polynucleotides in a second array to generate a second hybridization pattern; and
- (d) comparing the first and second hybridization patterns.

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on April 4, 2000, and the references cited therewith.

Claims 1-18 are pending. Claims 1 and 12 are amended to indicate that the present methods can be performed without sequencing the target polynucleotides. Support for this subject matter is present in the specification, for example, at page 25, lines 23-29. Applicants submit that the claims are allowable without amendment. This amendment is made only for business reasons in order to expedite the prosecution of this case and merely clarify that the references are directed to determining the linear order of bases in a nucleic acid, not to determining a pattern as defined in the present claims.

§103 Rejection of the Claims

Claims 1-18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,631,134 to Cantor et al. (the '134 patent) in view of Yershov et al., 93 Proc. Natl. Acad. Sci., USA 4913-18 (1996). The Examiner has alleged that the combination of these references teaches each element of the claimed invention.

Three criteria must be met in order to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the cited reference or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings so as to arrive at the claimed invention. Second, there must be a reasonable